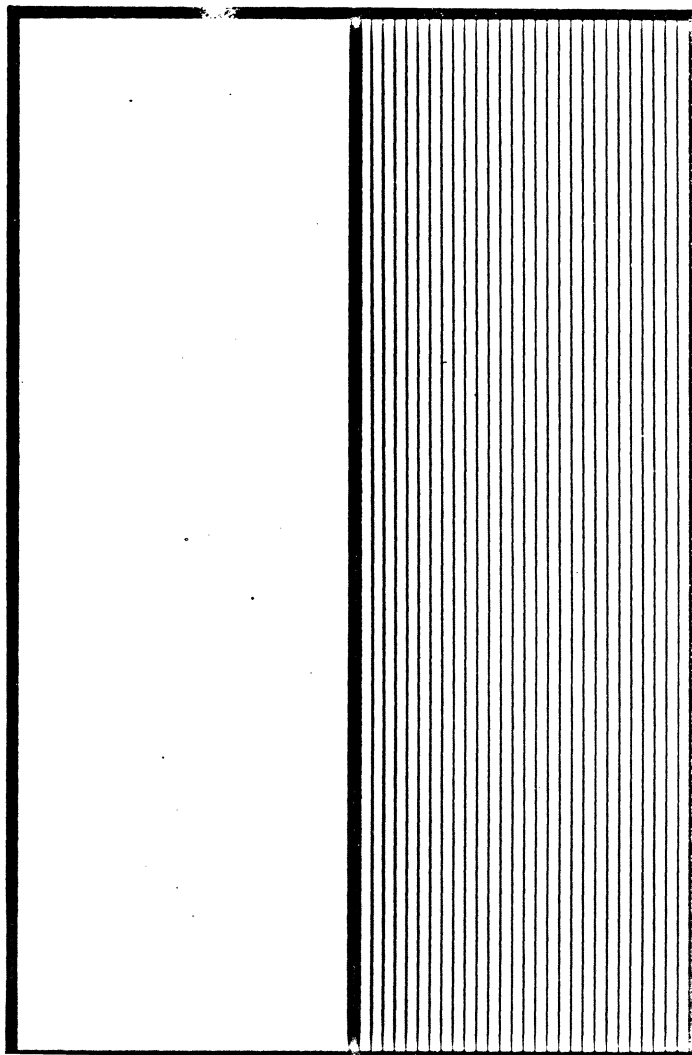


UNIVAC 9400 SYSTEM

PROGRAM DESCRIPTION DRAWING

CUSTOMER
ENGINEERING



 SPERRY RAND

 UNIVAC

DRAWING NO. 4091715

REVISION -

CUSTOMER ENGINEERING
PRODUCT DIAGNOSTIC SOFTWARE

9400 - 5024/8424 or 8425 Disc Interference Test
D2130

	SIGNATURE	TITLE	DATE
APPROVAL	_____	_____	_____
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REVISION STATISTICS RECORD

4091715

DWG REV	MSTR REV	RELEASE DATE	DESIGNER NAME	EIR NUMBER	FCO NUMBER
-	N		PDS Phila., Pa.	C12607	

4091715

REVISION DESCRIPTION RECORD

REV	DESCRIPTION
-	Release to 9400 Test Library

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1. INTRODUCTION

1.1 Purpose. This document describes a 9400 Maintenance test program for the 5024/8424 of 25 Subsystem.

1.2 Major Objectives. The objective of this test program is to perform a test of the 5024/8424 or 25 Subsystem. Test organization and operator options are intended to satisfy the needs of Design, Quality Control and Field Engineering personnel in checkout, acceptance and maintenance activities.

1.3 Equipment Configurations. All equipment configurations must be connected to a Selector I-O channel of the 9400 Processor. This test will operate the following equipment configuration:

- Disc File Control - Type 5024
- Disc Drive - Type 8424 or 25
- Disc Pack Assembly - Type F12 14-01

1.4 Associated Software. This program has DSKH included as an integral part of the program. This is the standard disc handler routine used by all Disc Maintenance test programs. It is the interface between the program and MCR, which performs program load, parameterization, execution, deletion, I-O handling, and message handling.

1.5 Reference Documents

DRAWING

DESCRIPTION

S70040

UNIVAC 9400 Processor, Type 3019-00 and -01.

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UNIVAC 9400 Dual I-O Selector Channel, Type XXXX-00 and -01.

P10076

Disc File Control, Type 5024.
8424 or 25

4091622

Maintenance Control Routine.

4091623

Parameter and Message Routines.

4091670

5024/8414 Disc Program Handler.

2. FUNCTIONAL DESCRIPTION

2.1 General Organization. Tests 2 and 3 test to see if the count, key, and data of a selected record are affected by writing records on the adjacent tracks. After the adjacent records are written X number of times, the CKD of the original track is read and compared to that expected. In test 4 a number of records are written on a track, followed by writing data records X number of times on the odd numbered records. The count and keys of the even records are then read and compared to that expected.

2.2 Program Description

2.2.1 Test 1 (Group Test)

Objective - The objective of test 1 is to enable several tests to be internally selected simply by entering subtest 1. Test 1 selects tests 2 thru 4.

Method - The program places bits into the parameter location which tells DSKII which tests to enter.

2.2.2. Test 2 (Erase Head Fringing Test)

Objective - To verify that writing records on adjacent tracks does not affect the information on a given track.

Method - A Track Descriptor Record (7200 bytes) is written on a specified track (N). Track Descriptor Records having a complement data pattern to the first record are then written alternately on N+1 and N-1 tracks an optional number of times. Record zero of N is then read and compared to that expected.

2.2.3 Test 3 (Erase Head Fringing Test)

Objective - To verify that displacing the head several tracks before returning and writing on the adjacent tracks does not alter information on a given track.

Method - A Track Descriptor record (7200 bytes) is written on a specified track (N). The head is then moved to N-M, where (M) is a displacement greater than 1, then to N-1 where RO is written. This movement to N-M and writing on N-1 continues an optional number of times, then (N) is read and compared to that expected. The same occurs for the combinations N+M, N-M; N-M, N+1; and N+M, N-1.

2.2.4 Test 4 (Residual Magnetism Test)

Objective - To verify that writing data on a record does not alter the count and key of the following record.

Method - Count-key-data is written on every record of a specified track. Data is then written on the odd numbered records an optional number of times. The Count-key of the even records is then read and compared to that expected.

3. OPERATING PROCEDURES

The Disc Handler Routine DSKH is used as a standard interface between the program and MCR. All operating procedures described in the DSKH documentation hold equally well for this program.

3.1 Initialization. See DSKH documentation. The program is called by typing in D4130.

3.2 Test Program Parameters.

V6/DDDD/DDDD PRESET TO /55AA/AA55

First two bytes contain data pattern that will be written on primary track. Second two bytes contain complement data pattern for the adjacent tracks.

V17/RRMMØLLL PRESET TO /Ø11Ø115

RR Repetitive Write is the number of writes that will occur on the adjacent tracks (Test 2 and 3) and on the odd records (Test 3).

MM Displacement used in Test 3.

ØLLL .Length of records that will be written in Test 4.
Limits (ØØD7 - Ø671)

3.3 Test Program Messages. The DSKH documentation describes all test entry and exit messages and a standard 1-0 error message. Data errors are detected by the program, and all data error messages are contained in the program.

3.3.1 Test 1 - A simple parameter setting is performed here, so no errors can occur

3.3.2 Test 2 - If an invalid cylinder or head is selected as V15 or V16, a message "RESELECT CYLINDER" is printed. Also the data read and expected is printed on all errors, as well as the byte position of the error.

--Reselect CYL. NO. V15-V16 = 00CC00HH00CC00HH

--DATA COMPARE ERROR CYL. 00CC00HH POSITION OXXX

DATA READ XX

DATA XPCT XX

3.3.3 Test 3

--DATA COMPARE ERROR CYL 00CC00HH POSITION OCCC

DATA READ XX

DATA XPCT XX

TEST N $\pm$ 1, N $\pm$ M

--RESELECT V15-V16 00CC00HH00CC00HH AND OR

V17 XXXX0000

N $\pm$ 1 = Direction of adjacent track

N $\pm$ M = Direction of displacement

3.3.4 Test 4

--RESELECT CYL NO V15-V16 = 00CC00HH00CC00HH

--COUNT KEY READ 00CC00HHØØKLØØØØØØØØØØ

COUNT KEY XPCT 00CC00HHØØKLØØØØØØØØØØ

--RESELECT V17+2 00000XXX

CC = CYL NO

HH = Head No.

RN = KN = Record & Key

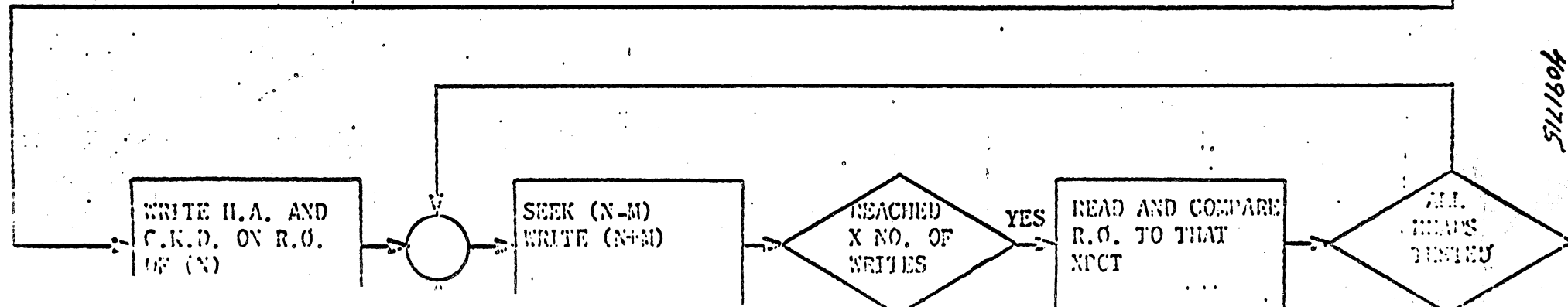
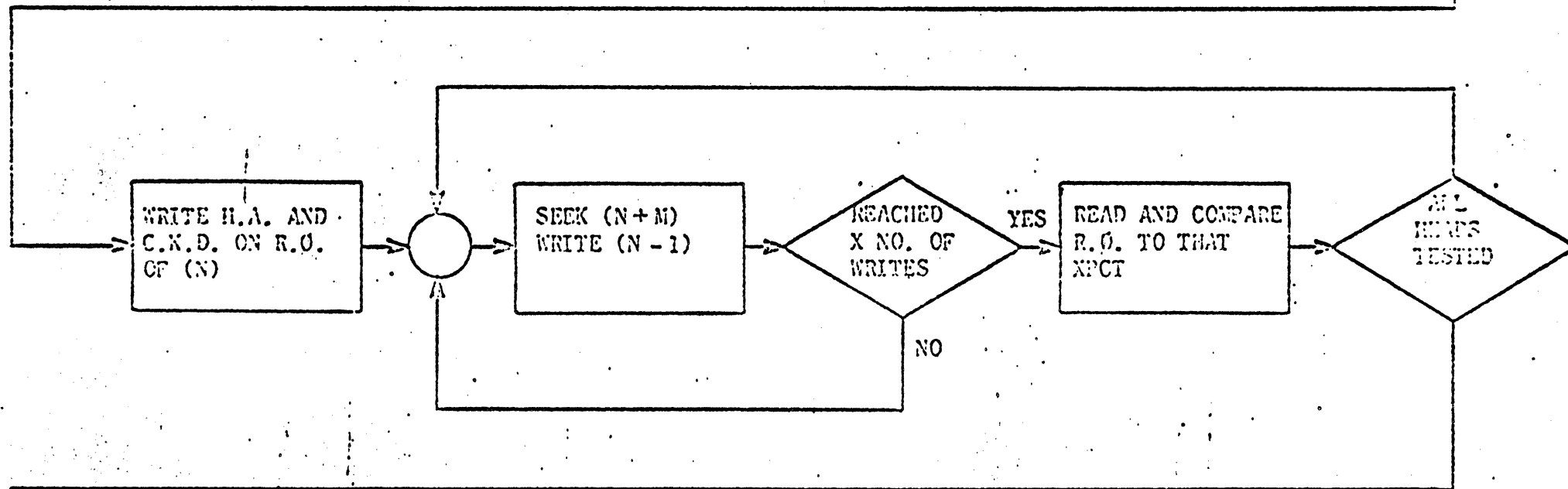
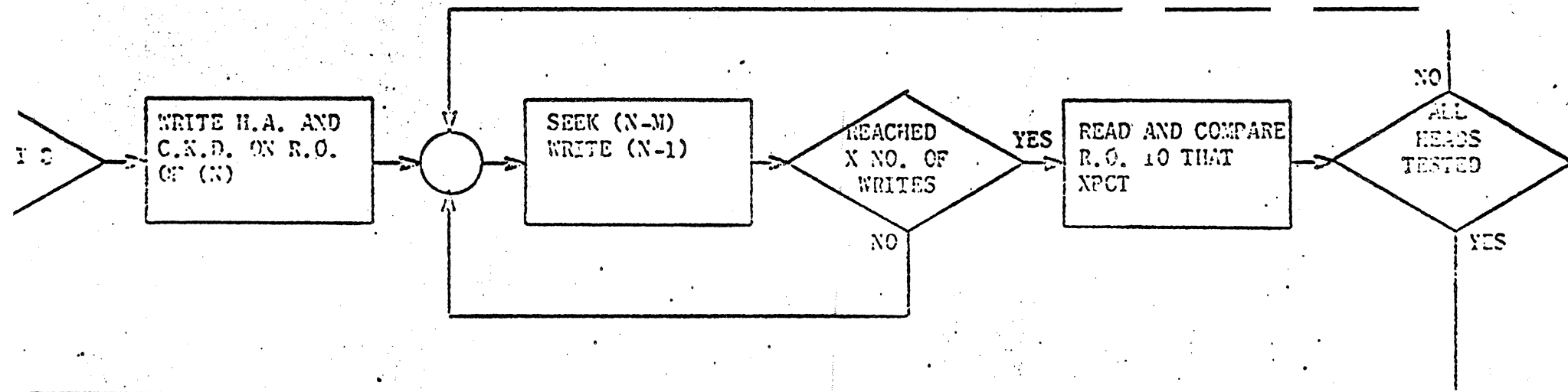
KL = Key Length

DL = Data Length

4. SUPPLEMENTARY DATA

4.1 Supplementary Software Information. Each test of the program is entered separately by DSKII and stands alone. It could be extracted from the rest of the program and either be eliminated or assembled by itself with DSKII.

4.2 Supplementary Hardware Information. See DSKII documentation.



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